IN THE CLAIMS:

The following is a listing of all the claims as they currently stand.

1-21. (Canceled)

22. (Previously presented) A robotic surgical system comprising:

a plurality of tools of different tool-types, each tool comprising an elongate shaft with a cross section suitable for introduction into an internal surgical site within a patient body via a minimally invasive opening, a distal surgical end effector coupled to the shaft by at least one joint, the joint drivingly coupled to a proximal interface by a tool drive system, and circuitry that transmits a tool-type signal via the interface;

a robotic manipulator including a linkage supporting a tool holder which releasably receives the interface, at least one manipulator drive motor drivingly engaging the linkage so as to move the tool holder relative to the opening and position the shaft within the surgical site, and at least one tool drive motor coupled to the tool holder so as to drivingly engage the tool drive system and articulate the at least one joint; and

a processor coupled to the tool holder, the processor having programming that effects a desired movement of the end effector by transmitting drive signals to the at least one tool drive motor of the manipulator, wherein the processor reconfigures programming for the different characteristics based on the tool-type signals.

23. (Original) The robotic system of claim 22, wherein the drive systems of the different tool-types effect different angular movement about the joints for a given input from the tool drive motors, and wherein the processor reconfigures the program for the different drive system angular movements.

24. (Original) A fault tolerant robotic surgical system comprising:

a surgical tool having a surgical end effector and an interface;

a manipulator assembly having a base and a tool holder for releasably engaging the interface;

a plurality of tool engagement sensors coupled to the tool holder, each sensor producing a tool signal when the interface engages the holder; and

a processor coupled to the tool engagement sensors, the processor having a tool change mode and a tissue manipulation mode, the processor requiring tool signals from each of the sensors before changing from the tool change mode to the tissue manipulation mode, the processor remaining in the tissue manipulation mode when at least one, but not all, of the tool signals is lost.

25. (Original) A robotic surgical system comprising:

a manipulator assembly having a base and a tool holder which moves relative to the base, the tool holder having a plurality of drive elements;

a sterile drape covering at least a portion of the manipulator;

a sterile tool having a proximal interface and a distal end effector, the distal end effector having a plurality of degrees of motion relative to the proximal interface, the degrees of motion coupled to driven elements of the interface; and

an adapter disposed adjacent the sterile drape between the holder and the interface, the adapter comprising a plurality of movable bodies, each movable body having a first surface driven by the drive elements and a second surface driving the driven elements.

26. (Previously presented) The robotic surgical system of claim 25, wherein the movable bodies are rotatable about an axis between the first and second surfaces, the rotatable bodies movable between first and second axial positions, the rotatable bodies being disposed in the first axial position when the adapter is mounted to the manipulator and the rotatable bodies are misaligned with the drive elements, angular rotation of the rotatable bodies being limited when the rotatable bodies are disposed in the first axial position to allow alignment of the drive elements with the rotatable bodies by rotating the drive elements, the rotatable

bodies having unlimited angular rotation when the rotatable bodies are aligned with the drive elements and the rotatable bodies are disposed in the second axial position, and wherein each of the driven elements has a limited angular rotation.

27. (Canceled)

28. (Canceled)

29. (Original) A robotic system comprising:

a robotic manipulator having a tool holder, the manipulator moving the holder in response to signals from a processor;

a tool having a surgical end effector;

an adapter coupling the tool to the holder, the adapter maintaining sterile separation between the tool and holder;

a first sensor disposed adjacent the holder, the first sensor transmitting a first signal to the processor in response to coupling of the adapter to the holder; and

a second sensor disposed adjacent the holder, the second sensor transmitting a second signal to the processor in response to coupling of the tool to the adapter.

30. (Canceled)

31. (Original) A robotic surgical system comprising:

a tool having circuitry containing verification information;

a coupler for coupling the tool; and

at least one system processor for receiving the verification information from the tool coupled to the coupler, said at least one processor further manipulating the information with an algorithm to produce output information, comparing the output information to predetermined data to verify compatibility of the tool with the robotic surgical system, and enabling the robotic surgical system to manipulate the tool if the output information matches the predetermined data.

32. (Original) The system of claim 31, wherein said verification information and said predetermined data are unique to said tool, and said predetermined data are contained in said circuitry on said tool.

33. (Previously presented) A robotic surgical tool for use in a robotic surgical system having a processor which directs movement of a tool holder, the tool comprising:

a probe having a proximal end and a distal end;

a surgical end effector disposed adjacent the distal end of the probe;

an interface disposed adjacent the proximal end of the probe, the interface releasably coupleable with the tool holder; and

circuitry mounted on the probe, the circuitry defining a signal for transmitting to the processor so as to indicate compatibility of the tool with the system;

wherein the signal comprises unique tool identifier data; and

the processor of the robotic surgical system including programming to manipulate the tool identifier data according to a predetermined function so as to derive verification data in response to the tool identifier, wherein the signal transmitted to the processor further comprises the verification data.